[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2020-0072]

Design Review Guide for Instrumentation and Controls for Non-Light-Water Reactor Reviews

AGENCY: Nuclear Regulatory Commission.

ACTION: Staff guidance; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing a Design Review Guide (DRG) entitled "Instrumentation and Controls for Non-Light-Water Reactor (non-LWR) Reviews." This DRG provides guidance for the NRC staff to use in reviewing the Instrumentation and Controls (I&C) portions of applications for advanced non-LWRs within the bounds of existing regulations. The guidance supports NRC's Non-LWR Vision and Strategy, Implementation Action Plan Strategy 3, which involves developing: (1) guidance for flexible regulatory review processes for non-LWRs within the bounds of existing regulations; and (2) a new non-LWR regulatory framework that is risk-informed and performance-based, and that features NRC staff's review efforts commensurate with the demonstrated safety performance of non-LWR technologies.

DATES: This guidance is available on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID NRC-2020-0072 when contacting the NRC about the availability of information regarding this document. You may obtain publicly available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to https://www.regulations.gov and search for Docket ID NRC-2020-0072. Address questions about Docket IDs in Regulations.gov to Stacy Schumann; telephone: 301-415-0624; e-mail: Stacy.Schumann@nrc.gov. For technical questions, contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The Design Review Guide (DRG): Instrumentation and Controls for Non-Light-Water Reactor (non-LWR) Reviews is available in ADAMS under Accession No. ML21011A140.

- **Attention**: The PDR, where you may examine and order copies of public documents, is currently closed. You may submit your request to the PDR via e-mail at pdr.resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8:00 a.m. and 4:00 p.m. (EST), Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Jordan Hoellman, Office of Nuclear Reactor Regulation, telephone: 301-415-5481, e-mail: Jordan.Hoellman2@nrc.gov, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001.

SUPPLEMENTARY INFORMATION:

I. Background

The DRG guidance leverages the Small Modular Reactor Design-Specific Review Standard Chapter 7 framework while factoring in the lessons learned from new reactor reviews. This guidance supports the NRC's Vision and Strategy document entitled "Safely Achieving Effective and Efficient Non-Light Water Reactor Mission Readiness" (ADAMS Accession No. ML16356A670), and the "Non-LWR Vision and Strategy Near-Term Implementation Action Plans" (ADAMS Accession No. ML17165A069). Specifically, the guidance discussed herein supports Implementation Action Plan Strategy 3, which involves developing: (1) guidance for flexible regulatory review processes for non-LWRs within the bounds of existing regulations; and (2) a new non-LWR regulatory framework that is risk-informed and performance-based, and that features NRC staff's review efforts commensurate with the demonstrated safety

performance of non-LWR technologies. This DRG also factors in the principles in Regulatory Guide (RG) 1.233, "Guidance for Technology-Inclusive, Risk-Informed, and Performance-Based Approach to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light-Water Reactors" (ADAMS Accession No. ML20091L698). RG 1.233 endorses the methodology in Nuclear Energy Institute 18-04, "Risk-Informed Performance-Based Technology Inclusive Guidance for Non-Light Water Reactor Licensing Basis Development" (ADAMS Accession No. ML19241A472), with clarifications and points of emphasis.

This DRG provides guidance for the NRC staff responsible for the review of the I&C portion of license applications to help determine whether: (1) the applicant has demonstrated that there is reasonable assurance that the plant is designed to adequately protect public health and safety and the environment; and (2) the design complies with the applicable regulatory requirements. Some advanced reactor reviews will use a core review team approach and the I&C topics will be addressed as part of the staff's collaborations on the overall plant design and associated programmatic controls. This DRG supports the I&C-related reviews as part of a core review team approach or a more traditional matrix-type review of applications.

The NRC staff guidance discussed herein is a proactive way to further modernize the I&C safety review of advanced non-LWR applications by making it technology-inclusive, risk-informed, and performance-based.

On April 14, 2020 (85 FR 20725), the NRC published for public comment a proposed version of the DRG. The public comment period closed on June 29, 2020. Four sets of public comments were received regarding the draft DRG. The final version of the DRG is available in ADAMS under Accession No. ML21011A140. A summary of

the public comments and the NRC staff's disposition of the comments is available in a separate document (ADAMS Package Accession No. ML20238B943).

II. Backfitting, Forward Fitting, and Issue Finality

The DRG provides guidance to the staff for reviewing instrumentation and controls information provided in applications for licensing actions involving non-LWR designs.

Issuance of the DRG does not constitute backfitting as defined in section 50.109 of title 10 of the *Code of Federal Regulations* (10 CFR), (the backfit rule), and as described in Management Directive (MD) 8.4, "Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests"; constitute forward fitting as that term is defined and described in MD 8.4; or affect issue finality of any approval issued under 10 CFR part 52, "Licenses, Certificates, and Approvals for Nuclear Power Plants." The NRC's position is based upon the following considerations:

First, the DRG provides guidance to the NRC staff on how to review an application for NRC regulatory approval in the form of licensing. New guidance intended for use by only the staff is not a matter that constitutes backfitting as that term is defined in 10 CFR 50.109(a)(1); constitutes forward fitting as that term is defined and described in MD 8.4; or affects issue finality of any approval issued under 10 CFR part 52, "Licenses, Certificates, and Approvals for Nuclear Power Plants."

Second, the NRC staff does not intend to use the guidance in the DRG to support NRC staff actions in a manner that would constitute backfitting or forward fitting. If, in the future, the NRC seeks to impose a position in the DRG in a manner that constitutes backfitting or forward fitting or affects the issue finality for a 10 CFR part 52 approval, then the NRC will address the backfitting provision in 10 CFR 50.109, the

forward fitting provision of MD 8.4, or the applicable issue finality provision in 10 CFR part 52, respectively.

III. Congressional Review Act

This DRG is a rule as defined in the Congressional Review Act (5 U.S.C. 801-808). However, the Office of Management and Budget has not found it to be a major rule as defined in the Congressional Review Act.

Dated: March 2, 2021.

For the Nuclear Regulatory Commission.

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